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1 **Optimum index profile of the perfluorinated polymer-based GI polym optical fiber and its dispersion properties**
Ishigure, T.; Koike, Y.; Fleming, J.W.;
Lightwave Technology, Journal of , Volume: 18 Issue: 2 , Feb 2000
Page(s): 178 -184

[Abstract] [PDF Full-Text (172 KB)] **IEEE JNL**

2 **Status and challenges of GI POF in data-com. area**
Koike, Y.; Ishigure, T.;
Optical Communication, 2001. ECOC '01. 27th European Conference on , Volun 2001
Page(s): 72 -73 vol.1

[Abstract] [PDF Full-Text (376 KB)] **IEEE CNF**

3 **Materials technology for perfluorinated graded-index polymer optical**
Blyler, L.L.; White, W.R.; Ratnagiri, R.;
Optical Communication, 2001. ECOC '01. 27th European Conference on , Volun 2001
Page(s): 64 -65 vol.1

[Abstract] [PDF Full-Text (351 KB)] **IEEE CNF**

4 **Plastic fibers**
Yasuhiro, K.;
Optical Fiber Communication. OFC 97., Conference on , 16-21 Feb 1997
Page(s): 325

[Abstract] [PDF Full-Text (80 KB)] **IEEE CNF**

5 **High-bandwidth, low-loss graded-index polymer optical fiber for nea infrared use**
Ishigure, T.; Nihei, E.; Koike, Y.;
Optical Communication, 1998. 24th European Conference on , Volume: 1 , 20- 1998
Page(s): 231 -232 vol.1

[Abstract] [PDF Full-Text (168 KB)] **IEEE CNF**

6 **POF is overcoming silica in bit rate**
Ishigure, T.; Koike, Y.;
Optical Fiber Communication Conference and Exhibit, 2001. OFC 2001 , 2001
Page(s): ThC7 -T1-3 vol.4

[Abstract] [PDF Full-Text (236 KB)] **IEEE CNF**

7 **Recent status of perfluorinated graded index plastic optical fiber and novel termination method**
Watanabe, Y.; Onishi, T.; Tsukamoto, T.; Matsuyama, Y.;
Optical Fiber Communication Conference and Exhibit, 2001. OFC 2001 , 2001
Page(s): ThC6 -T1-3 vol.4

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Jung, D.-H.; Park, I. J.; Choi, Y. K.; Lee, S.-B.; Park, H. S.; Ruhe, J.;
Langmuir; **(Article); 2002**; *18*(16); 6133-6139. DOI: 10.1021/la025558u

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Curran, D. P.; Luo, Z.;
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McNamee, C. E.; Matsumoto, M.; Hartley, P. G.; Mulvaney, P.; Tsujii, Y.; Nakahara, M.;
Langmuir; **(Article); 2001**; *17*(20); 6220-6227. DOI: 10.1021/la010282w

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J. Am. Chem. Soc., **121** (39), 9069 -9072, 1999. 10.1021/ja991496r S0002-7863(99)01496-1
Web Release Date: September 15, 1999

Fluorous Synthesis with Fewer Fluorines (Light Fluorous Synthesis): Separation of Tagged from Untagged Products by Solid-Phase Extraction with Fluorous Reverse-Phase Silica Gel

Dennis P. Curran* and Zhiyong Luo

Contribution from the Department of Chemistry and Center for Combinatorial Chemistry, University of Pittsburgh, Pittsburgh, Pennsylvania 15260

Received May 6, 1999

Abstract:

Fluorous synthesis involves tagging an organic substrate with a fluorinated tag for the purposes of separation. To date, techniques of fluorous synthesis have relied on liquid-liquid extractions. This paper applies a simple solid-liquid extraction procedure over fluorous reverse-phase silica gel (silica with a fluorocarbon bonded phase) for use in fluorous synthesis. Four amino acids were tagged on nitrogen with the $C_9F_{19}CO$- group, and the resulting acids were coupled in a parallel experiment with an excess of four amines. The resulting 16 crude fluorous amide products were separated from all the coupling reagents and excess amine by two-stage filtration through fluorous silica. In 15 of the 16 cases, the products were isolated in good to excellent yield and purity. All of the products are soluble in organic solvents and none is expected to have any significant solubility in fluorous solvents, so the experiment dramatically illustrates the advantages of the solid-liquid extraction over the liquid-liquid extraction. Future prospects for application of fluorous silica are briefly discussed.

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L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
AN 1987:555099 CAPLUS
DN 107:155099
TI Investigation by pyrolysis-gas chromatography of the composition of multicomponent polymeric microheterogeneous systems based on some vinyl monomers
AU Shadrina, N. E.; Dmitrenko, A. V.; Pavlova, V. F.; Ivanchev, S. S.
CS Plastpolym. Okhta Res. Prod. Assoc., Leningrad, USSR
SO Journal of Chromatography (1987), 404(1), 183-95
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English

L5 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 2002:594961 CAPLUS
DN 137:142236
TI Preparation and use of an impregnating, cleaning fluid based on a polysiloxane network, especially for printing rolls
IN Nass, Ruediger; Jonschker, Gerhard
PA Nanogate Technologies G.m.b.H., Germany
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002061029	A2	20020808	WO 2002-EP952	20020130
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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	DE 10104164	A1	20020822	DE 2001-10104164	20010130
	DE 10106342	A1	20020822	DE 2001-10106342	20010212
	DE 10119825	A1	20021107	DE 2001-10119825	20010423
PRAI	DE 2001-10104164	A	20010130		
	DE 2001-10106342	A	20010212		
	DE 2001-10117138	A	20010405		
	DE 2001-10119825	A	20010423		

L5 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 2000:681835 CAPLUS
DN 133:366084
TI Transformation of MTBE over a solid acid catalyst
AU Richards, Sarah A.; Zhang, Wei-xian
CS Department of Civil and Environmental Engineering, Lehigh University, Bethlehem, PA, 18015, USA
SO Chemical Oxidation and Reactive Barriers: Remediation of Chlorinated and Recalcitrant Compounds, International Conference on Remediation of Chlorinated and Recalcitrant Compounds, 2nd, Monterey, CA, United States, May 22-25, 2000 (2000), 249-255. Editor(s): Wickramanayake, Godage B.; Gavaskar, Arun R.; Chen, Abraham S. C. Publisher: Battelle Press, Columbus, Ohio.
CODEN: 69AIJ2
DT Conference
LA English
RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 2000:349798 CAPLUS
DN 133:363157
TI Inorganic-organic copolymers - materials with a high potential for chemical modification
AU Rose, Klaus; Amberg-Schwab, Sabine; Heinrich, Matthias
CS Fraunhofer-Institut fur Silicatforschung, Wurzburg, D-97082, Germany
SO Organosilicon Chemistry IV: From Molecules to Materials, [Lectures and Poster Contributions presented at the Muechner Silicontage], 4th, Muechen, Apr., 1998 (2000), Meeting Date 1998, 613-619. Editor(s): Auner, Norbert; Weis, Johann. Publisher: Wiley-VCH Verlag GmbH, Weinheim, Germany. CODEN: 68ZMAL
DT Conference; General Review
LA English
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1999:99321 CAPLUS
DN 130:238192
TI Ceramers based on crosslinked epoxy resins-silica hybrids: low surface energy systems
AU Mascia, L.; Tang, T.
CS Institute of Polymer Technology and Materials Engineering, Loughborough University, Loughborough, LE11 3TU, UK
SO Journal of Sol-Gel Science and Technology (1998), 13(1/2/3), 405-408 CODEN: JSGTEC; ISSN: 0928-0707
PB Kluwer Academic Publishers
DT Journal
LA English
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1998:588332 CAPLUS
DN 129:281577
TI Schnell gel: rapid formation of low density gels from a tetra(fluoroalkoxy)silane
AU Sharp, Kenneth G.
CS Central Research, DuPont Co., Wilmington, DE, 19880-0323, USA
SO Materials Research Society Symposium Proceedings (1998), 520(Nanostructured Powders and Their Industrial Applications), 123-135 CODEN: MRSPDH; ISSN: 0272-9172
PB Materials Research Society
DT Journal
LA English
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1989:633699 CAPLUS
DN 111:233699
TI **Perfluorinated**-ionomer-membrane-based microcomposites. Silicon oxide filled membranes
AU Mauritz, K. A.; Storey, R. F.; Jones, C. K.
CS Dep. Polym. Sci., Univ. South Mississippi, Hattiesburg, MS, 39406-0076, USA
SO ACS Symposium Series (1989), 395(Multiphase Polym.: Blends Ionomers), 401-17 CODEN: ACSMC8; ISSN: 0097-6156
DT Journal
LA English

L5 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS

AN 1987:555099 CAPLUS
DN 107:155099
TI Investigation by pyrolysis-gas chromatography of the composition of multicomponent polymeric microheterogeneous systems based on some vinyl monomers
AU Shadrina, N. E.; Dmitrenko, A. V.; Pavlova, V. F.; Ivanchev, S. S.
CS Plastpolym. Okhta Res. Prod. Assoc., Leningrad, USSR
SO Journal of Chromatography (1987), 404(1), 183-95
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English

L5 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 2000:349798 CAPLUS
DN 133:363157
TI Inorganic-organic copolymers - materials with a high potential for chemical modification
AU Rose, Klaus; Amberg-Schwab, Sabine; Heinrich, Matthias
CS Fraunhofer-Institut fur Silicatforschung, Wurzburg, D-97082, Germany
SO Organosilicon Chemistry IV: From Molecules to Materials, [Lectures and Poster Contributions presented at the Muechner Silicontage], 4th, Muechen, Apr., 1998 (2000), Meeting Date 1998, 613-619. Editor(s): Auner, Norbert; Weis, Johann. Publisher: Wiley-VCH Verlag GmbH, Weinheim, Germany.
CODEN: 68ZMAL
DT Conference; General Review
LA English
CC 36-0 (Physical Properties of Synthetic High Polymers)
AB A review with 9 refs. The surface properties of coatings derived from inorg.-org. copolymers were adjusted by the proper choice of monomeric organoalkoxysilanes of the general type R'nSi(OR)4-n (n = 1 or 2). Special compds. with functional groups in R' were incorporated into an inorg. backbone via **hydrolysis** and condensation reactions during sol-gel processing forming an inorg.-org. hybrid material. **Perfluorinated** alkyl chains in R' reduce the surface energy, thus facilitating anti-adhesive behavior of the resulting coating against polar and nonpolar substances. Due to the presence of ionic compds., e.g. ammonium moieties, the sp. surface resistance is decreased from 1015 to 108 .OMEGA.. Thus elec. charging of the surface is inhibited and the attraction of dust particles is avoided. For a special application in sensor technol. a polyacryloxysiloxane based coating modified with secondary amines is used as a CO2-sensitive layer on **silica** optical fibers. The reaction of amino groups with CO2 can be detected by optical means.
ST review inorg org polymer chem modification
IT Polysiloxanes, miscellaneous
Polysiloxanes, miscellaneous
RL: MSC (Miscellaneous)
(fluorine-contg.; inorg.-org. copolymers with high potential for chem. modification)
IT Fluoropolymers, miscellaneous
Fluoropolymers, miscellaneous
RL: MSC (Miscellaneous)
(polysiloxane-; inorg.-org. copolymers with high potential for chem. modification)
IT Hybrid organic-inorganic materials
(siloxane-based; inorg.-org. copolymers with high potential for chem. modification)
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
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(1) Brinker, C; Sol-Gel Science, The Physics and Chemistry of Sol-Gel Processing 1990
(2) Gauglitz, G; Nachr Chem Tech Lab 1995, V43, P316 CAPLUS
(3) Kochem, K; Kunststoffe 1992, V82, P575 CAPLUS
(4) Matejec, V; Sens Act B 1997, V38-39, P438

(5) Novak, B; Adv Mater 1993, V5, P6
(6) Owen, M; Ind Eng Chem Prod Res Dev 1980, V19, P97 CAPLUS
(7) Rose, K; J Sol-Gel Sci Technol 1998, V13, P729 CAPLUS
(8) Schubert, U; Chem Mater 1995, V7, P2010 CAPLUS
(9) Yoshida, Y; Chem Lett 1984, P1571 CAPLUS

L5 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1998:588332 CAPLUS
DN 129:281577
TI Schnell gel: rapid formation of low density gels from a tetra(fluoroalkoxy)silane
AU Sharp, Kenneth G.
CS Central Research, DuPont Co., Wilmington, DE, 19880-0323, USA
SO Materials Research Society Symposium Proceedings (1998), 520(Nanostructured Powders and Their Industrial Applications), 123-135
CODEN: MRSPDH; ISSN: 0272-9172
PB Materials Research Society
DT Journal
LA English
CC 66-4 (Surface Chemistry and Colloids)
Section cross-reference(s): 78
AB A new family of simple precursors to **silica** gel has been developed. The gel precursors are tetra(polyfluoroalkoxy)silanes, the prototype being Si(OCH2CF3)4. Formation of transparent monolithic gels with no added catalyst can be six orders of magnitude faster than comparable reactions of Si(OCH2CH3)4 [TEOS]. Extremely low d. gels can be generated in minutes at concns. at which TEOS does not gel at all. Pore sizes in the wet gels were estd. from hydrodynamic relaxation in a beam-bending expt. on cylindrical logs. In a gel at 1% solids, the pore size was approx. 100 nm. Monolithic gels can be created at concns. at least as low as 0.1% solids and have higher moduli than predicted. NMR and GC/IR evidence indicates extremely facile **hydrolysis** and condensation pathways and very few silanol or cyclic intermediates in the sol. The chem. can also be conducted in **perfluorinated** solvents, enabling synthesis of **silica**/fluoropolymer nanocomposites.
ST tetrafluoroethoxysilane prepn gelation hydrolysis condensation
IT Gelation
Sol-gel transition
(rapid formation of low d. gels from tetra(fluoroalkoxy)silane)
IT Condensation reaction
Hydrolysis
Pore size
Xerogels
(rapid formation of low d. gels from tetra(fluoroalkoxy)silane in relation to)
IT 338-39-6P, Silicic acid (H4SiO4), tetrakis(2,2,2-trifluoroethyl) ester
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(rapid formation of low d. gels from tetra(fluoroalkoxy)silane)
IT 75-89-8, 2,2,2-Trifluoroethanol 10026-04-7, Silicon tetrachloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(rapid formation of low d. gels from tetra(fluoroalkoxy)silane)
IT 597-52-4, Triethylsilanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(rapid formation of low d. gels from tetra(fluoroalkoxy)silane in relation to)
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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(2) Brinker, C; J Non-Cryst Solids 1988, V100, P31 CAPLUS
(3) Brinker, C; Sol-gel Science 1990
(4) Colby, M; J Non-Cryst Solids 1988, V99, P129 CAPLUS
(5) Coltrain, B; Ultrastruct Process Adv Mater, Int Conf Ultrastruct Process

Ceram 1992
(6) Delattre, L; Mater Res Soc Symp Proc 1994, V346, P365 CAPLUS
(7) Eaborn, C; Organosilicon Compounds 1960
(8) Fricke, J; Mater Eng (N Y) 1994, V8, P311 CAPLUS
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(16) Scherer, G; Faraday Discuss 1995, V101, P225 CAPLUS
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(21) Sharp, K; J Sol-Gel Sci Technol 1994, V2, P35 CAPLUS
(22) Tillotson, T; J Non-Cryst Solids 1992, V145, P44 CAPLUS
(23) Woignier, T; J Non-Cryst Solids 1987, V93, P17 CAPLUS
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